

ESA Comments to PJM DIRS on Hybrid Solutions Matrix

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ESA submits feedback on PJM's [4/17 version](#) of the Hybrid Solutions Matrix regarding positive aspects of the proposal, preferred options among different packages, concerns, as well as questions. We thank PJM for this feedback opportunity and for taking ESA's feedback into consideration.

ESA strongly supports the following and asks that PJM preserve these components:

- Definitions:
 - ESA supports the definitions, which give flexibility to participate as a single resource, or as two distinct resources.
- Capacity Market Must-offer:
 - ESA strongly supports that hybrid resources be exempt from must-offer requirements.

ESA Prefers Package B for the Reserves Design Component:

- Reserves Design Component:
 - Option B gives more optionality to solar battery hybrids for providing synchronized and day-ahead scheduling reserves when the default option is that these resources are qualified. Option A excludes these resources by default, requiring that resources “opt-in with PJM review/approval,” which presents a greater administrative burden to market participants.

ESA has concerns about the following and asks that PJM modify these components:

- Resource Classification Process:
 - ESA recommends that resources have the ability to change registration from co-located to hybrid or alter ELCC on an annual basis. Generator data needed for PJM modeling and reliability analysis is required annually; an annual schedule for resource registration flexibility would be reasonable as well. Not having the ability to change registration from co-located to hybrid or alter ELCC except once every five years (as proposed in the Matrix) is extremely restrictive. This prevents flexibility to the plant operator to derive the most value from the hybrid and its subcomponents.
- Modeling Energy & A.S.:
 - ESA proposes the following edit to cell 3E since a DC-coupled hybrid can operate subcomponents independently and be “open-looped” with bi-directional inverters:
 - Conditions that make a mixed-technology resource physically incapable of operating independently include: the sum of the nameplate AC power rating of the components is greater than the Maximum Facility Output; ~~DC-coupled hybrids~~; closed-loop hybrids.

ESA has the following clarification questions on “open loop hybrids” and “closed-loop hybrids”:

- Modeling Energy/A.S.:
 - For “open-loop hybrid resources” (can charge from the grid), PJM’s proposal states that these resources can “opt into the Energy Storage resource planning model, which includes the ability to schedule charging energy.” Is the decision to opt in a one-time decision?
 - When “open-loop hybrid resources” charge, are they always considered to be charging from the grid, or can they be considered to be charging from their paired resource, when appropriate? Does this answer to this depend on whether they have “opted in?”

- Definitions:
 - For “closed-loop” hybrids, what in the PJM market rules is different for closed-loop hybrids? Do they get to register as an intermittent renewable generator instead of as a storage asset, and is this advantageous? If so, how is it advantageous?